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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,436	07/22/2002	Helen Dukes	P 0290692	3671
909	7590	02/19/2004	EXAMINER	
PILLSBURY WINTHROP, LLP P.O. BOX 10500 MCLEAN, VA 22102			PHAM, MINH CHAU THI	
			ART UNIT	PAPER NUMBER
			1724	

DATE MAILED: 02/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/049,436

Applicant(s)

DUKES ET AL.

Examiner

Minh-Chau T. Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other:

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Kunisaki et al (5,876,489; col. 1, lines 51-57; col. 2, lines 18-25; col. 4, line 66 through col. 5, line 4; col. 5, lines 37-43; col. 8, lines 46-50) or Coombs et al (5,840,245; col. 4, lines 12-34 and line 55 through col. 5, line 11; col. 5, lines 24-30), in view of Woo et al (6,436,442 B1; col. 1, lines 15-24; col. 27, line 57 through col. 28, line 42).

Either Kunisaki et al or Coombs et al disclose an air filter medium comprising an antimicrobially agents. Kunisaki et al further disclose the filter medium can entrap living germs within the filter and may proliferate due to variation in humidity. Kunisaki et al also discloses the filter medium formed by synthetic fiber filaments, nonwoven fabric or paper fabric. Coombs et al disclose an air filter medium for use in HVAC (heating, ventilating and air conditioning) comprising woven or nonwoven materials with antimicrobially effective amount of antimicrobial agents. Claims 1-14 differ from the disclosure of either Kunisaki et al or Coombs et al in that the filter medium comprising a microbiologically effective amount of a polymeric biguanide or salt. Woo et al disclose the filter medium comprising a microbiologically effective amount of a polymeric biguanide or salt wherein the polymeric biguanide contains at least two biguanide units in which the polymeric biguanide is poly(hexamethylene biguanide). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide a filter medium incorporating an effective amount of a polymeric biguanide as

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taught by Woo et al in the filter medium of either Kunisaki et al or Coombs et al since polymeric biguanide is well known in the art as disinfectant or sanitizer or effective antimicrobial material.

### ***Response to Arguments***

Applicant's arguments filed on December 4, 2003 have been fully considered but they are not persuasive.

Applicant argues that the Woo et al reference does not disclose a filter medium including natural or synthetic plastic material and containing polymeric biguanides. The Examiner newly introduces the Kunisaki et al and Coombs et al as the primary references wherein Kunisaki et al disclose the filter medium can entrap living germs within the filter and may proliferate due to variation in humidity. Kunisaki et al also discloses the filter medium formed by synthetic fiber filaments, nonwoven fabric or paper fabric. The Coombs et al also disclose an air filter medium for use in HVAC (heating, ventilating and air conditioning) comprising woven or nonwoven materials with antimicrobially effective amount of antimicrobial agents. The Examiner reintroduces the Woo et al as the secondary reference wherein Woo et al disclose the filter medium (col. 1, line 23, "air filter") comprising a microbiologically effective amount of a polymeric biguanide or salt wherein the polymeric biguanide contains at least two biguanide units in which the polymeric biguanide is poly(hexamethylene biguanide) (see col. 27, lines 37-42 and line 58 through col. 28, line 42). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide a filter medium incorporating an effective amount of a polymeric biguanide as taught by Woo et

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al in the filter medium of either Kunisaki et al or Coombs et al since polymeric biguanide is well known in the art as disinfectant or sanitizer or effective antimicrobial material.

Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection, as discussed above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh-Chau T. Pham whose telephone number is (571) 272-1163. The examiner can normally be reached on Mon/Tues/Thur/Fri 7:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-0987.



**Minh-Chau Pham**  
**Patent Examiner**

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February 13, 2004